

1.0 INTRODUCTION

This EIS¹ analyzes the environmental impacts of leasing five tracts of federal coal reserves adjacent to operating mines in the southern PRB. Operators of four mines, North Antelope/Rochelle Complex, Black Thunder, North Rochelle, and Antelope, filed four applications to lease five tracts of federal coal as maintenance tracts under the regulations at 43 CFR 3425, Leasing On Application. All four applications have been reviewed by BLM, Wyoming State Office, Division of Minerals and Lands Authorization. That office determined that all four lease applications met the regulatory requirements for lease by applications, or LBAs. The five LBA tracts considered in this EIS and the adjacent mines are shown in Figure 1-1. They are the NARO North and NARO South LBA Tracts, adjacent to the North Antelope/Rochelle Complex; the Little Thunder LBA Tract, adjacent to the Black Thunder Mine; the West Roundup LBA Tract, adjacent to the North Rochelle Mine; and the West Antelope LBA Tract, adjacent to the Antelope Mine. The applications are summarized below.

On March 10, 2000, PRCC filed an application with the BLM for federal coal reserves in two separate tracts located north and south of and immediately adjacent to the North Antelope/Rochelle Complex. The tracts are referred to as the NARO North and NARO South LBA Tracts.

The NARO North Tract is located in southern Campbell County, Wyoming, approximately 13 miles southeast of Wright, Wyoming. The NARO South Tract is located in southern Campbell County and northern Converse County, Wyoming, approximately 19 miles southeast of Wright, Wyoming (Figure 1-1). The federal coal reserves were applied for as maintenance tracts for the North Antelope/Rochelle Complex. BLM determined that the two tracts in the application would be processed separately and, if the decision is made to conduct a lease sale, would be offered for sale separately. The North Antelope/Rochelle Complex is operated by PRCC, a subsidiary of the Peabody Holding Company, Inc. PRCC's coal lease application was assigned case file numbers WYW150210 (NARO North) and WYW154001 (NARO South).

On March 23, 2000, ALC filed an application with the BLM for federal coal reserves in a tract located west of and immediately adjacent to the Black Thunder Mine. ALC is a wholly owned subsidiary of Arch Coal, Inc. The Black Thunder Mine is operated by TBCC, a subsidiary of Arch Western Resources, LLC. In this EIS, ALC is referred to as the applicant and TBCC is referred to in discussions of mine operations. The tract is referred to as the Little Thunder LBA Tract. The application area is located in southern Campbell County, Wyoming, approximately six miles east-southeast of Wright, Wyoming (Figure 1-1). The federal coal reserves were applied for as a

¹ Refer to page xii for a list of abbreviations and acronyms used in this document.

Figure 1-1

maintenance tract for the Black Thunder Mine. ALC's coal lease application was assigned case file number WYW150318.

On July 28, 2000, TCC filed an application with the BLM for federal coal reserves in a tract located west of and immediately adjacent to the North Rochelle Mine. The application area is located in southern Campbell County, Wyoming, approximately 10 miles southeast of Wright, Wyoming (Figure 1-1). The tract is referred to as the West Roundup LBA Tract. The federal coal reserves were applied for as a maintenance tract for the North Rochelle Mine. The North Rochelle Mine is operated by TCC, a subsidiary of Vulcan Intermediary, LLC. TCC's coal lease application was assigned case file number WYW151134.

On September 12, 2000, ACC filed an application with the BLM for federal coal reserves in a tract located west of and immediately adjacent to the Antelope Mine. The tract is referred to as the West Antelope LBA Tract. The application area is located in southern Campbell County and northern Converse County, Wyoming, approximately 19 miles south-southeast of Wright, Wyoming (Figure 1-1). The federal coal reserves were applied for as a maintenance tract for the Antelope Mine. The Antelope Mine is operated by ACC, a subsidiary of Kennecott Energy Company. ACC's coal lease application was assigned case file number WYW151643.

These federal coal lands are located within the Powder River Federal Coal Region, which was decertified in

January 1990. Although the Powder River Federal Coal Region is decertified, the PRRCT, a federal/state advisory board established to develop recommendations concerning management of federal coal in the region, has continued to meet regularly and review all federal lease applications in the region. The PRRCT reviewed these four maintenance coal lease applications at a public meeting held on October 25, 2000, in Cheyenne, Wyoming. The PRRCT recommended that the BLM continue to process all four lease applications at that meeting.

On June 14, 2001, ALC filed an application with the BLM to modify the Little Thunder LBA Tract configuration to increase the lease area and coal volume. BLM reviewed the modified tract configuration and notified the company by letter dated July 20, 2001 that their application had been modified.

On June 27, 2001, ACC filed an application with the BLM to modify the West Antelope LBA Tract configuration to increase the lease area and coal volume. BLM reviewed the modified tract configuration and notified the company by letter dated July 18, 2001 that their application had been modified.

In order to process an LBA, the BLM must evaluate the quantity, quality, maximum economic recovery, and fair market value of the federal coal and fulfill the requirements of NEPA by evaluating the environmental impacts of leasing the federal coal. BLM does not authorize mining by issuing a lease for federal coal, but the impacts

of mining the coal are considered in this EIS because it is a logical consequence of issuing a lease. The BLM determined that one EIS would be prepared to evaluate the environmental impacts of coal mining that would result from the issuance of these five leases. This EIS has been prepared to evaluate the site-specific and cumulative environmental impacts of leasing and developing the federal coal included in these application areas. Scoping for these lease applications was conducted from October 1 to October 31, 2001. A Notice of Scoping and Notice of Intent to Prepare an EIS was published in the *Federal Register* on October 3, 2001 and in the Gillette News-Record on September 25, 2001 and October 2, 2001. A public scoping meeting was held in Gillette, Wyoming on October 10, 2001.

BLM will use the analysis in this EIS to make a decision on whether or not to hold a public, competitive, sealed-bid coal lease sale for each of the five coal tracts and issue federal coal leases. A separate Record of Decision will be issued for each tract and a separate sale will be held for each tract that the BLM decision maker approves for leasing. For each lease sale that is held, the bidding will be open to any qualified bidder; bidding will not be not limited to the applicants. For each lease sale that is held, a lease will be issued to the highest bidder if a federal sale panel determines that the high bid at that sale meets or exceeds the fair market value of the coal as determined by BLM's economic evaluation and if the U.S. Department of Justice determines that there would be no

antitrust violations if a lease is issued to the high bidder at that sale.

Since decertification of the Powder River Federal Coal Region, 11 federal coal leases have been sold at competitive sealed-bid sales and one federal coal lease has been exchanged in the Wyoming portion of the Powder River Federal Coal Region (Table 1-1). One tract (the Belle Ayr 2000 LBA Tract) was offered for sale, but the bid received was rejected. The Belle Ayr 2000 Tract is now included in the Belle Ayr LBA Tract shown in Figure 1-1. All of the mines with applications being considered in this EIS have been issued maintenance leases since decertification (Table 1-1 and Figure 1-1).

Table 1-2 summarizes the applications that are currently pending. One application, the Little Thunder Extension LBA Tract, has been withdrawn by the applicant, Kennecott Energy Company. A coal exchange proposed by Pittsburg and Midway Coal Mining Company is also currently being evaluated. As proposed, federal coal in Sheridan County, Wyoming would be exchanged for privately owned lands and minerals in Lincoln, Carbon, and Sheridan Counties, Wyoming.

Other agencies may use this analysis to make decisions related to leasing and mining the federal coal in these tracts. OSM, the federal agency responsible for regulating surface coal mining operations, is a cooperating

Table 1-1. Leases Issued Since Decertification, Powder River Basin, Wyoming.

LBA/Exchange Name (Lease #) Lessee Effective Date	Acres¹	Mineable Tons of Coal¹	Successful Bid
Jacobs Ranch LBA (WYW117924) Jacobs Ranch Mine 10/1/1992	1,708.620	147,423,560	\$20,114,930.00
West Black Thunder LBA (WYW118907) Black Thunder Mine 10/1/1992	3,492.495	429,048,216	\$71,909,282.69
North Antelope/Rochelle LBA (WYW119554) N. Antelope/Rochelle Complex 10/1/1992	3,064.040	403,500,000	\$86,987,765.00
West Rocky Butte LBA (WYW122586) No Existing Mine ² 1/1/1993	463.205	56,700,000	\$16,500,000.00
Eagle Butte LBA (WYW124783) Eagle Butte Mine 8/1/1995	1,059.175	166,400,000	\$18,470,400.00
Antelope LBA (WYW128322) Antelope Mine 2/1/1997	617.200	60,364,000	\$9,054,600.00
North Rochelle LBA (WYW127221) North Rochelle Mine 1/1/1998	1,481.930	157,610,000	\$30,576,340.00
Powder River LBA (WYW136142) N. Antelope/Rochelle Complex 9/1/1998	4,224.225	532,000,000	\$109,596,500.00
Thundercloud LBA (WYW136458) Black Thunder Mine 1/1/1999	3,545.503	412,000,000	\$158,000,008.50
EOG (Belco) I-90 Lease Exchange (WYW150152) EOG (formerly Belco) 4/1/2000	599.170	106,000,000	Exchanged for rights to Belco I-90 Lease (WYW0322794)
Horse Creek LBA (WYW141435) Antelope Mine 12/1/2000	2,818.695	275,577,000	\$91,220,120.70
North Jacobs Ranch LBA (WYW146744) Jacobs Ranch Mine 5/1/2002	4,982.939	537,500,000	\$379,504,652.00
TOTALS	28,057.197	3,284,122,776	\$991,934,598.89

¹ Information from Sale Notice.² The West Rocky Butte Lease is now owned by the Caballo Mine.

1.0 Introduction

Table 1-2. Pending LBAs, Powder River Basin, Wyoming.

LBA Lease # Applicant Mine	Application Date	Acres	Estimated Tons of Coal¹ (mmt)	Status
NARO North WYW150210 North Antelope/ Rochelle	3/10/00	2,369.380	323.0	PRRCT reviewed on 10/25/00
NARO South WYW154001 North Antelope/ Rochelle	3/10/00	2,133.635	241.0	PRRCT reviewed on 10/25/00
Little Thunder WYW150318 Black Thunder	3/23/00	3,449.317	479.3	PRRCT reviewed on 10/25/00
West Roundup WYW151134 North Rochelle	7/28/00	1,870.638	173.2	PRRCT reviewed on 10/25/00
West Hay Creek WYW151634 Buckskin	8/31/00	838.098	130.0	PRRCT reviewed on 10/25/00
West Antelope WYW151643 Antelope	9/12/00	3,542.190	293.9	PRRCT reviewed on 10/25/00
Little Thunder Expansion² WYW154429 Jacobs Ranch	9/14/01	0.000	0.0	Withdrawn by applicant 4/12/2002
Maysdorf (formerly Mt. Logan) WYW154432 Cordero-Rojo	9/20/01	2,809.480	296.3	PRRCT reviewed 5/30/2002
West Extension WYW155132 Eagle Butte	12/28/01	1,642.590	200.0	PRRCT reviewed 5/30/2002
Belle Ayr WYW141568 Belle Ayr	3/20/97	1,578.760	200.0	PRRCT reviewed 4/23/97, 10/27/99, & 5/30/2002
TOTALS		20,234.088	2,336.7	

¹ Estimated tons of in-place coal as reported in the lease application.

² This application overlapped and expanded the Little Thunder LBA Tract.

agency on this EIS. OSM will use this EIS to make decisions related to the approval of the MLA mining plans for these tracts, if any or all of these leases are issued. The USFS is also a cooperating agency in the preparation of this EIS, because the surface of some of the land included for consideration for leasing in three of the tracts is owned by the Federal government and administered by the USFS as part of the TBNG.

NARO North and NARO South LBA Tracts

The NARO North and NARO South LBA Tracts as applied for and the existing federal coal leases in the adjacent North Antelope/Rochelle Complex are shown in Figure 1-2. As applied for, the NARO North LBA Tract includes approximately 2,369.4 acres and an estimated 323 million tons of in-place coal reserves. PRCC estimates that approximately 306.9 million tons of coal will be produced from the NARO North LBA Tract as applied for, assuming a recovery factor of 95 percent. As applied for, the NARO South LBA Tract includes approximately 2,133.6 acres and an estimated 241 million tons of in-place coal reserves. Not all of the coal included in the NARO South LBA Tract is mineable, however. For example, some of the coal included in the South Tract is located within the BNSF & UP railroad ROW. This coal will not be mined because it has been determined to be unsuitable for mining according to the coal leasing unsuitability criteria (43 CFR 3461), but it was included in the tract to allow maximum recovery of all the mineable coal adjacent to the ROW.

PRCC estimates that approximately 10 million tons of coal are within the ROW, and an additional 20 million tons of coal are in partially burned areas that are therefore not recoverable. The fact that the coal within the ROW and partially burned area cannot all be recovered will be considered by BLM in the fair market value determination for the LBA tract. PRCC estimates that approximately 200 million tons of coal will be produced from the NARO South LBA Tract as applied for.

The NARO North LBA Tract is contiguous with the North Antelope/Rochelle Complex and the NARO South LBA Tract is contiguous with both the North Antelope/Rochelle Complex and the Antelope Mine, which is operated by ACC. Portions of both tracts lie within the North Antelope/Rochelle Complex's current mining permit boundary (Figure 1-2). The area applied for is substantially similar to the adjacent mines for which detailed site-specific environmental data have been collected and for which environmental analyses have previously been prepared to secure the existing leases and the necessary mining permits.

The surface of the NARO North LBA Tract is owned by the United States of America and PRCC. The federally owned surface is part of the TBNG, administered by the USFS. The surface of the NARO South LBA Tract is owned by PRCC, the Bridle Bit Ranch Company, and the Dilts brothers (John, Jerry, and Steve).

Figure 1-2

Current land uses of the tracts include grazing by domestic animals and wildlife, oil and gas production, and recreation.

If PRCC acquires federal coal leases for the NARO North and NARO South LBA Tracts, the coal resources would be mined to extend the life of the North Antelope/Rochelle Complex. The mining method would be a combination of truck and shovel and dragline, which are the mining methods currently in use at this mine. The coal would be used primarily for electric power generation.

After mining, the land would be reclaimed for livestock grazing and wildlife use as is the current practice at the North Antelope/Rochelle Complex.

Little Thunder LBA Tract

The Little Thunder LBA Tract as applied for and the existing federal coal leases in the adjacent Black Thunder Mine are shown in Figure 1-3. As applied for, the Little Thunder LBA Tract includes approximately 3,449.3 acres and an estimated 479.3 million tons of in-place coal reserves. Not all of the coal included in the tract is mineable, however. For example, some of the coal included in the tract is located within the BNSF & UP railroad and Wyoming Highway 450 ROWs. This coal will not be mined because it has been determined to be unsuitable for mining according to the coal leasing unsuitability criteria (43 CFR 3461), but it was included in the tract to allow maximum recovery of all the

mineable coal adjacent to the ROWs. The fact that the coal within the ROWs cannot all be recovered will be considered by the BLM in the fair market value determination for the LBA tract. TBCC estimates that approximately 440 million tons of coal will be produced from the Little Thunder LBA Tract as applied for.

The Little Thunder LBA Tract is contiguous with the Black Thunder Mine. A portion of the tract lies within the Black Thunder Mine's current mining permit boundary (Figure 1-3). The area applied for is substantially similar to the adjacent mine for which detailed site-specific environmental data have been collected and for which environmental analyses have previously been prepared to secure the existing leases and the necessary mining permit.

The surface of the Little Thunder LBA Tract is owned by ALC (a wholly owned subsidiary of Arch Coal, Inc.), the Naomi M. Hopkins Trust, TBCC, and the United States of America. The federally owned surface is part of the TBNG, administered by the USFS. Current land uses of the tract include grazing by domestic animals and wildlife, oil and gas production, and recreation.

If ALC acquires a federal coal lease for these lands, the Little Thunder LBA Tract coal resources would be mined to extend the life of the Black Thunder Mine. The mining method would be a combination of truck and shovel and dragline, which are the mining methods currently in use at

Figure 1-3

this mine. The coal would be used primarily for electric power generation.

After mining, the land would be reclaimed for livestock grazing and wildlife use as is the current practice at the Black Thunder Mine.

West Roundup LBA Tract

The West Roundup LBA Tract as applied for and the existing federal coal leases in the adjacent North Rochelle Mine are shown in Figure 1-4. As applied for, the West Roundup LBA Tract consists of two tracts separated by the North Rochelle Mine railroad spur and facilities and a county road (Reno Road). The two tracts include approximately 1,870.7 acres and an estimated 173.2 million tons of in-place coal reserves. TCC estimates that approximately 155.9 million tons of coal will be produced from the West Roundup LBA Tract as applied for assuming a recovery factor of 90 percent.

The West Roundup LBA Tract is contiguous with both the North Rochelle Mine and the Black Thunder Mine, which is operated by TBCC. A portion of the tract lies within both the North Rochelle Mine's and the Black Thunder Mine's current mining permit boundaries (Figure 1-4). The area applied for is substantially similar to the adjacent mines for which detailed site-specific environmental data have been collected and for which environmental analyses have previously been prepared to secure the existing leases and the necessary mining permits.

The surface of the West Roundup LBA Tract is owned by TCC, TBCC, and the United States of America. The federally owned surface is part of the TBNG, administered by the USFS. Current land uses of the tract include grazing by domestic animals and wildlife, oil and gas production, and recreation.

If TCC acquires a federal coal lease for these lands, the West Roundup LBA Tract coal resources would be mined to extend the life of the North Rochelle Mine. The mining method would be a combination of truck and shovel and dragline, which are the mining methods currently in use at this mine. The coal would be used primarily for electric power generation.

After mining, the land would be reclaimed for livestock grazing and wildlife use as is the current practice at the North Rochelle Mine.

West Antelope LBA Tract

The West Antelope LBA Tract as applied for and the existing federal coal leases in the adjacent Antelope Mine are shown in Figure 1-5. As applied for, the West Antelope LBA Tract includes approximately 3,542.2 acres and an estimated 293.9 million tons of in-place coal reserves. Not all of the coal included in the tract is mineable, however. For both operational and environmental reasons, ACC's approved mining plan avoids disturbing Antelope Creek and an adjacent buffer zone, so any coal reserves that are beneath Antelope Creek would not be recovered. No

Figure 1-4

Figure 1-5

disturbance except for haulroads and conveyor crossings are allowed within Antelope Mine's Antelope Creek buffer zone without prior approval of the WDEQ/LQD. Although it has not been determined to be unsuitable for mining according to the coal leasing unsuitability criteria (43 CFR 3461), this coal will not be mined; however, it was included in the tract to allow maximum recovery of the reserves adjacent to the Antelope Creek buffer zone. The fact that the coal within the buffer zone will not be mined will be considered by BLM in the fair market value determination for the LBA tract. ACC estimates that approximately 228.4 million tons of coal will be produced from the West Antelope LBA Tract as applied for.

The West Antelope LBA Tract is contiguous with the Antelope Mine. A small portion of the tract lies within the Antelope Mine's current mining permit boundary (Figure 1-5). The area applied for is substantially similar to the adjacent mine for which detailed site-specific environmental data have been collected and for which environmental analyses have previously been prepared to secure the existing leases and the necessary mining permits.

The surface of the West Antelope LBA Tract is owned by ACC and Gene and Patricia Litton. Current land uses of the tract include grazing by domestic animals and wildlife and recreation.

If ACC acquires a federal coal lease for these lands, the West Antelope LBA Tract coal resources would be mined to extend the life of the Antelope Mine. The mining method

would be a combination of truck and shovel and dragline, which are the mining methods currently in use at this mine. The coal would be used primarily for electric power generation.

After mining, the land would be reclaimed for livestock grazing and wildlife use as is the current practice at the Antelope Mine.

1.1 Purpose and Need for Action

BLM administers the federal coal leasing program under the Mineral Leasing Act of 1920. A federal coal lease grants the lessee the exclusive right to obtain a mining permit for, and to mine coal on, the leased tract subject to the terms of the lease, the mining permit, and applicable state and federal laws. Before a new lease can be mined, the lessee must obtain approval of a detailed mining and reclamation plan.

In return for receiving a lease, a lessee must pay the federal government a bonus equal to the amount it bid at the time the lease sale was held (the bonus can be paid in five yearly installments), make annual rental payments to the federal government, and make royalty payments to the federal government when the coal is mined. Federal bonus, rental, and royalty payments are equally divided with the state in which the lease is located.

The North Antelope/Rochelle Complex, as currently permitted, includes 27,187 acres and originally contained approximately 1,645.8 million tons of mineable coal. As of

January 1, 2002, PRCC had an estimated 952 million tons of in-place coal reserves remaining at the mine, and the company estimates that approximately 904.4 million tons of those remaining reserves are recoverable. PRCC's currently approved (by WDEQ/AQD in August 2001) air quality permit allows two alternative mining scenarios, both of which will require modification of the existing mine plan. One scenario permits a maximum of 105 million tons of coal per year to be mined (during years 2004 through 2006), while the other scenario permits a maximum of 84 million tons of coal per year to be mined (during years 2002 through 2007). The mine produced approximately 68.9 million tons of coal in 1999, 70.8 million tons of coal in 2000 and 74.8 million tons of coal in 2001. Based upon a plan for increasing, then diminishing annual coal production over the life of the mine, PRCC estimates that the existing recoverable reserves at the North Antelope/Rochelle Complex will be depleted within approximately 12 years at an average production rate of approximately 75 mmtpy (the annual production rate will range from 8.7 mmtpy to 105 mmtpy). The company has applied for the coal reserves in the NARO North and NARO South LBA Tracts in order to increase average annual coal production and to extend the life of the North Antelope/Rochelle Complex. According to the most recent information from PRCC, beginning year 2002 they plan to produce an average of approximately 90 mmtpy for 16 years if they acquire the two NARO LBA Tracts (the annual production rate would range between

26 mmtpy and 105 mmtpy). Thus, acquiring these new leases would enable them to increase their average annual coal production by approximately 15 million tons and production life by four years. If the LBA tracts are leased to PRCC as maintenance tracts, the permit area for the adjacent mine would have to be amended to include the new lease areas before they could be disturbed. This process takes several years to complete. PRCC is applying for federal coal reserves now so that they can complete the permitting process in time to mine the new federal reserves in a logical progression as existing reserves are depleted.

The Black Thunder Mine, as currently permitted, includes 21,238 acres and originally contained approximately 1,494.5 million tons of mineable federal coal reserves. As of January 1, 2002, TBCC had an estimated 968.7 million tons of in-place coal reserves remaining at the mine, and the company estimates that approximately 920.3 million tons of those remaining reserves are recoverable. TBCC's currently approved (by WDEQ/AQD in July 1999) air quality permit allows up to 100 million tons of coal per year to be mined through year 2027. The mine produced approximately 48.7 million tons of coal in 1999, 60.1 million tons of coal in 2000 and 67.6 million tons of coal in 2001. Based upon diminishing annual coal production over the life of the mine, TBCC estimates that the existing recoverable reserves at the Black Thunder Mine will be depleted within approximately 24 years at an average production rate of approximately 38.3

mmtpy (the annual production rate will range between 9.0 mmtpy and 68.5 mmtpy). The company has applied for the coal reserves in the Little Thunder LBA Tract in order to increase annual coal production and to extend the life of the Black Thunder Mine. According to the most recent information from TBCC, beginning year 2002 they plan to produce an average of approximately 42.5 mmtpy for 32 years if they acquire a lease for the Little Thunder LBA Tract (the annual production rate would range between 10.5 mmtpy and 68.5 mmtpy). Thus acquiring the new lease would enable them to increase their average annual coal production by approximately 4.2 million tons and production life by eight years. If the LBA tract is leased to ALC as a maintenance tract, the permit area for the adjacent mine would have to be amended to include the new lease area before it could be disturbed. This process takes several years to complete. ALC is applying for federal coal reserves now so that they can negotiate new contracts and then complete the permitting process in time to meet anticipated new contract requirements.

The North Rochelle Mine, as currently permitted, includes 7,042 acres and originally contained approximately 337 million tons of mineable coal. As of January 1, 2002, TCC had an estimated 283 million tons of in-place coal reserves remaining at the mine, and the company estimates that approximately 255 million tons of those remaining reserves are recoverable. TCC's currently approved (by WDEQ/AQD in May 2000) air quality permit allows up to

35 million tons of coal per year to be mined through year 2018. The mine produced approximately 8.2 million tons of coal in 1999, 17.2 million tons of coal in 2000 and 23.9 million tons of coal in 2001. Based upon increasing annual coal production over the life of the mine, TCC currently estimates that the existing recoverable reserves at the North Rochelle Mine will be depleted within approximately seven years at an average production rate of approximately 35 mmtpy. The company has applied for the coal reserves in the West Roundup LBA Tract in order to extend the life of the North Rochelle Mine. According to the most recent information from TCC, beginning year 2002 they plan to produce an average of approximately 35 mmtpy for 11.8 years if they acquire a lease for the West Roundup LBA Tract. Thus acquiring the new lease would enable them to increase their productive life by 4.5 years. If the LBA tract is leased to TCC as a maintenance tract, the permit area for the adjacent mine would have to be amended to include the new lease area before it could be disturbed. This process takes several years to complete. TCC is applying for federal coal reserves now so that they can negotiate new contracts and then complete the permitting process in time to meet anticipated new contract requirements.

The Antelope Mine, as currently permitted, includes 10,848.6 acres and originally contained approximately 554.8 million tons of mineable coal. As of January 1, 2002, ACC had an estimated 373.4 million tons of mineable coal reserves

remaining at the mine, and the company estimates that approximately 347.3 million tons of those remaining reserves are recoverable. ACC's currently approved (by WDEQ/AQD in April 2001) air quality permit allows up to 32 million tons of coal per year to be mined through year 2017. The mine produced approximately 22.7 million tons of coal in 1999, 23 million tons of coal in 2000 and 24.6 million tons of coal in 2001. Based upon diminishing annual coal production over the life of the mine, ACC estimates that the existing recoverable reserves at the Antelope Mine will be depleted within approximately 25 years at an average production rate of approximately 13.9 mmtpy. The company has applied for the coal reserves in the West Antelope LBA Tract in order to increase average annual coal production by 9.1 million tons, but they do not plan to prolong the expected mine life beyond 2026. According to the most recent information from ACC, beginning year 2002 they plan to produce an average of approximately 23 mmtpy for 25 years with a maximum of 32 mmtpy if they acquire a lease for the West Antelope LBA Tract. If the LBA tract is leased to ACC as a maintenance tract, the permit area for the adjacent mine would have to be amended to include the new lease area before it could be disturbed. This process takes several years to complete. ACC is applying for federal coal reserves now so that they can negotiate new contracts and then complete the permitting process in time to meet anticipated new contract requirements.

This EIS analyzes the environmental impacts of issuing federal coal leases and mining the federal coal in the NARO North, NARO South, Little Thunder, West Roundup, and West Antelope lease applications as required by NEPA and associated rules and guidelines. A decision to hold a competitive sale and issue a lease for the lands in any of these applications is a prerequisite for mining but it is not the enabling action that would allow mining to begin. The BLM does not authorize mining operations by issuing a lease. After a lease has been issued but prior to mine development, the lessee must file a permit application package with the WDEQ/LQD and OSM for a surface mining permit and approval of the MLA mining plan. An analysis of a detailed site-specific mining and reclamation plan occurs at that time. Authorities and responsibilities of the BLM and other concerned regulatory agencies are described in the following sections.

1.2 Regulatory Authority and Responsibility

The coal lease applications filed by PRCC, ALC, TCC, and ACC were submitted and will be processed and evaluated under the following authorities:

- MLA, as amended;
- the Multiple-Use Sustained Yield Act of 1960;
- NEPA;
- FCLAA;
- FLPMA; and
- SMCRA.

The BLM is the lead agency responsible for leasing federal coal lands under the MLA as amended by FCLAA and is also responsible for preparation of this EIS to evaluate the potential environmental impacts of issuing each coal lease. For each of the coal lease applications included in this analysis (the NARO North, NARO South, Little Thunder, West Roundup, and West Antelope lease applications), the BLM must decide whether to hold a competitive, sealed-bid lease sale for the tract as applied for, hold a competitive sealed-bid lease sale for a modified tract, or reject the current lease application and not offer the tract for sale at this time.

The tracts proposed for leasing are within an area that has been included in several EIS planning documents, including the *BLM Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office (BLM 2001a)* [an update of the *Buffalo Resource Area Resource Management Plan* (BLM 1985a)] and the *BLM Platte River Resource Area Resource Management Plan* (BLM 1985b). Federal surface lands managed by the USFS are included in the NARO North, Little Thunder, and West Roundup LBA Tracts. These lands are within the area evaluated in the *USFS Medicine Bow National Forest and Thunder Basin National Grassland Land and Resource Management Plan* (USFS 1985) and the *Final EIS for the Northern Great Plains Management Plans Revision for Thunder Basin National Grassland* (USFS 2002a). As a result, the USFS is a cooperating agency on this EIS and USFS consent

will be required before a lease sale can be held for each of these three tracts.

OSM is a cooperating agency on this EIS. After a coal lease is issued, SMCRA gives OSM primary responsibility to administer programs that regulate surface coal mining operations and the surface effects of underground coal mining operations. Pursuant to Section 503 of SMCRA, the WDEQ developed, and in November 1980 the Secretary of the Interior approved, a permanent program authorizing WDEQ to regulate surface coal mining operations and surface effects of underground mining on nonfederal lands within the state of Wyoming. In January 1987, pursuant to Section 523(c) of SMCRA, WDEQ entered into a cooperative agreement with the Secretary of the Interior authorizing WDEQ to regulate surface coal mining operations and surface effects of underground mining on federal lands within the state.

Pursuant to the cooperative agreement, a federal coal lease holder in Wyoming must submit a permit application package to OSM and WDEQ/LQD for any proposed coal mining and reclamation operations on federal lands in the state. WDEQ/LQD reviews the permit application package to insure the permit application complies with the permitting requirements and the coal mining operation will meet the performance standards of the approved Wyoming program. OSM, BLM, and other federal agencies review the permit application package to insure it complies with the terms of

the coal lease, the MLA, NEPA, and other federal laws and their attendant regulations. If the permit application package does comply, WDEQ issues the applicant a permit to conduct coal mining operations. OSM recommends approval, approval with conditions, or disapproval of the MLA mining plan to the Assistant Secretary of the Interior, Land and Minerals Management. Before the MLA mining plan can be approved, the BLM must concur with this recommendation. USFS must also concur if USFS lands are included.

If a proposed LBA tract is leased to an existing mine, the lessee is required to revise its coal mining permit prior to mining the coal, following the processes outlined above. As a part of that process, a new mining and reclamation plan would be developed showing how the lands in each LBA tract that is leased would be mined and reclaimed. The revised permit area would be larger than the revised lease area in order to allow for disturbances outside the actual coal removal areas for such purposes as overstripping, matching to undisturbed topography, constructing flood control and sediment control facilities, and related activities. Specific impacts which would occur during the mining and reclamation of the LBA tract would be addressed in the mining and reclamation plans, and specific mitigation measures for anticipated impacts would be described in detail at that time.

WDEQ enforces the performance standards and permit requirements for reclamation during a mine's operation and has primary authority

in environmental emergencies. OSM retains oversight responsibility for this enforcement. BLM and USFS have authority in those emergency situations where WDEQ or OSM cannot act before environmental harm and damage occurs.

Appendix A presents other federal and state permitting requirements that must be satisfied to mine these LBA tracts.

BLM also has the responsibility to consult with and obtain the comments of other state or federal agencies which have jurisdiction by law or special expertise with respect to potential environmental impacts.

1.3 Relationship to BLM Policies, Plans, and Programs

In addition to the federal acts listed under Section 1.2, guidance and regulations for managing and administering public lands, including the federal coal lands in the PRCC, ALC, TCC, and ACC applications, are set forth in 40 CFR 1500 (Protection of Environment), 43 CFR 1601 (Planning, Programming, Budgeting), and 43 CFR 3400 (Coal Management).

Specific guidance for processing applications follow BLM Manual 3420, Competitive Coal Leasing (BLM 1989) and the 1991 *Powder River Regional Coal Team Operational Guidelines For Coal Lease-By-Applications* (BLM 1991). The *National Environmental Policy Act Handbook* (BLM 1988) has been followed in developing this EIS.

As put forth in Executive Order 13212, dated May 18, 2001, all BLM decisions must take into consideration adverse impacts on the President's National Energy Policy. According to BLM Instruction Memorandum No. 2002-053, dated December 12, 2001, it is BLM policy to prepare a "Statement of Adverse Energy Impact" whenever a BLM decision or action will have a direct or indirect adverse impact on energy development, production, supply or distribution. If there is no adverse impact, no Statement needs to be prepared. However, the ROD must note this fact.

The Proposed Actions, to lease federally-owned coal, would have no adverse energy impact. The No Action Alternatives, rejection of the lease applications, could adversely affect energy production if it results in any one of the LBA tracts never being mined or if there is a long delay in mining the coal. If the No Action Alternative is selected by BLM for any one of the LBA tracts, the ROD will have to contain a Statement of Adverse Energy Impact which will address the following:

- rationale why the coal lease cannot coexist with other uses of the land;
- alternatives considered in adoption of the No Action Alternative; and
- a qualitative judgement of the impacts of the decision in regards to production lost as well as steps taken to offset the loss.

1.4 Conformance with Existing Land Use Plans

FCLAA requires that lands considered for leasing be included in a comprehensive land use plan and that leasing decisions be compatible with that plan. The BLM *Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office* (BLM 2001a) [an update of the *Buffalo Resource Area Resource Management Plan* (BLM 1985a)] governs and addresses the leasing of federal coal in Campbell County, and the BLM *Platte River Resource Area Resource Management Plan* (BLM 1985b) governs the management of the BLM-administered lands and minerals in Converse County. The current land and resource management plan for the TBNG governs the management of USFS (public) lands in Campbell and Converse Counties, Wyoming. The USFS completed the USFS *Medicine Bow National Forest and Thunder Basin National Grassland Land and Resource Management Plan* in 1985 (USFS 1985). The *Final EIS for the Northern Great Plains Management Plans Revision for the Thunder Basin National Grassland* (USFS 2002a) and the *Land and Resource Management Plan for the Thunder Basin National Grassland* (USFS 2001) address revisions to the 1985 TBNG LRMP. The *Final EIS and Land and Resource Management Plans Revision Record of Decision for the Thunder Basin National Grassland* was signed on July 31, 2002.

Coal land use planning involves four planning screens to determine

whether the subject coal is acceptable for further lease consideration. The four coal screens are:

- development potential of the coal lands;
- unsuitability criteria application;
- multiple land use decisions that eliminate federal coal deposits; and
- surface owner consultation.

Only those federal coal lands that pass these screens are given further consideration for leasing. These coal screens were applied to federal coal lands in Campbell and Converse Counties in the early 1980s by the BLM and USFS. The results were published in the BLM Buffalo RMP, the Platte River RMP, and the TBNG LRMP in 1985. The five LBA tracts considered in this EIS are located in the area covered by the USFS screening analysis published in the TBNG LRMP in 1985. In 1993, BLM, USFS, and USFWS began the process of reapplying these screens to federal coal lands in Campbell, Converse and Sheridan Counties. The results of this analysis are included as Appendix D in the *Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office* (BLM 2001a) and can be viewed on the Wyoming BLM website at <<http://www.wy.blm.gov>> in the NEPA documents section.

A coal tract that is acceptable for further consideration for leasing must be located within areas that have been determined to have coal development potential. The lands in

these coal lease applications are within the area identified as having coal development potential by the BLM and the USFS in the coal screening analyses published in both the 1985 and 2001 BLM planning documents.

The coal mining unsuitability criteria listed in the federal coal management regulations (43 CFR 3461) have been applied to high to moderate coal development potential lands in the Wyoming PRB. Appendix B of this EIS summarizes the unsuitability criteria, describes the general findings for the 1985 BLM Buffalo and Platte River RMPs, the 1985 TBNG LRMP, the 2001 BLM *Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office* (BLM 2001a), and the 2002 USFS *Final EIS for the Northern Great Plains Management Plans Revision for Thunder Basin National Grassland* (USFS 2002a) and presents a validation of these findings for the NARO North, NARO South, Little Thunder, West Roundup, and West Antelope LBA Tracts.

As indicated in Appendix B, no lands in the NARO North or West Antelope LBA Tracts have been found to be unsuitable for mining. The lands in the NARO South LBA Tract within the BNSF & UP railroad ROW, and the lands in the Little Thunder LBA Tract within the BNSF & UP railroad and Highway 450 ROWs have been found to be unsuitable for mining under Unsuitability Criteria Numbers 2 and 3. USFS has determined that lands under a USFS special use permit for ancillary facilities at the North

Rochelle Mine are unsuitable for mining under Unsuitability Criterion Number 2 (USFS 2002a). TCC did not include these lands in their application for the West Roundup LBA Tract, but BLM is considering leasing a tract that would include these lands as an alternative to the tract as applied for. Although the lands described above have been determined to be unsuitable for mining, they would be included in the LBA tracts to allow recovery of all the mineable coal outside of the railroad and highway ROWs, associated buffer zones, and the USFS special use permit for ancillary facilities at the North Rochelle Mine and to comply with the coal leasing regulations, which do not allow leasing in less than 10-acre aliquot parts. A stipulation stating that no mining activity may be conducted in the portion of the leases within the BNSF & UP railroad and Highway 450 ROWs and USFS special use permit will be attached if leases are issued for these tracts. The exclusion of the coal underlying the railroad and highway ROWs and USFS special use permit from mining activity by lease stipulation honors the finding of unsuitability for mining under Unsuitability Criteria Numbers 2 and 3 for the BNSF & UP railroad and Highway 450 ROWs and USFS special use permit for ancillary facilities at the North Rochelle Mine.

Surface owner consultation was completed during the preparation of coal screening analyses published in the 1985 and 2001 RMPs and LRMPs. Qualified private surface owners in the Gillette coal development potential area were provided the

opportunity to express their preference for or against surface mining of federal coal under their private surface estate during both these screenings (see Chapter 7 for a definition of a “qualified surface owner”). The current surface ownership of the NARO North, NARO South, Little Thunder, West Roundup, and West Antelope LBA Tracts is discussed in Section 1.0 of this chapter and in Section 3.11. For each tract that is offered for sale, BLM will review the current surface ownership in the tracts, and any private surface owners who are determined to be qualified will be consulted prior to holding the lease sale.

As part of the coal planning for the 1985 BLM Buffalo and Platte River RMPs and the 1985 TBNG LRMP, a multiple land use conflict analysis was completed to identify and “eliminate additional coal deposits from further consideration for leasing to protect resource values of a locally important or unique nature not included in the unsuitability criteria,” in accordance with 43 CFR 3420.1-4e(3). The 1985 multiple use conflict evaluation in the BLM Buffalo RMP identified approximately 221,000 acres within Campbell, Sheridan, and Johnson Counties that were potentially affected by multiple use conflicts in four categories (producing oil and gas fields, communities, recreation and public purpose facilities, and cultural resources). The multiple use conflict evaluation referenced in the 1985 TBNG LRMP determined that there were no multiple use conflicts that were significant enough to require any

lands to be withdrawn from leasing consideration in the area covered by the USFS screening analysis. The 1985 BLM Platte River RMP relied on the 1985 TBNG LRMP analysis as the basis for coal planning. As discussed above, the NARO North, NARO South, Little Thunder, West Roundup, and West Antelope LBA Tracts are located within the 1985 TBNG LRMP analysis area.

No additional lands were specifically identified as potentially affected by multiple use conflicts in the multiple use analysis referenced in the 2001 *Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office* (BLM 2001a) and the 2002 *Final EIS for the Northern Great Plains Management Plans Revision for Thunder Basin National Grassland* (USFS 2002a).

The 1985 BLM Buffalo RMP addressed coal and oil and gas development conflicts in two planning decisions. Decision MM-4 recommended authorizing oil and gas drilling on coal leases only where drilling would not conflict with coal mining, and Decision MM-5 recommended deferring coal leasing in producing oil and gas fields until coal development would not interfere with economic recovery of the oil and gas resource, as determined on a case by case basis. An EIS which will be used to update the Buffalo RMP with respect to oil and gas development is currently in progress. The *Draft EIS and Draft Planning Amendment for the Powder River Basin Oil and Gas Project* was published in early 2002 (BLM 2002a). Decision M-2 in the

1985 BLM Platte River RMP included similar decisions to those in the 1985 BLM Buffalo RMP. The BLM Casper Field Office is currently initiating an update of the 1985 BLM Platte River RMP. The 1985 TBNG LRMP deferred mineral leasing decisions to the Department of Interior. The multiple use analysis published in the 2001 BLM Buffalo RMP update did not recommend changes to the existing 1985 RMP and LRMP decisions related to mineral development conflicts for either the BLM or the USFS.

As indicated in Section 1.0 of this EIS, the PRRCT reviewed the lease applications included in this EIS at a public meeting on October 25, 2000, in Cheyenne, Wyoming. At that meeting, the PRRCT heard presentations from representatives of some of the oil and gas lessees who might be affected by leasing the tracts included in this analysis regarding deferring leasing the federal coal in these tracts until the CBM is recovered. The PRRCT recommended that the BLM proceed with leasing these tracts. The BLM has followed the PRRCT's recommendation regarding processing the applications for the NARO North, NARO South, Little Thunder, West Roundup, and West Antelope LBA Tracts.

CBM wells presently exist or have been proposed in and around the LBA tracts in the General Analysis Area (see Mineral Resources discussion in Section 3.3). BLM has also identified federal oil and gas leases and corresponding lessees within existing coal leases and coal lease application areas. Those oil and gas lessees have

been and are being contacted and encouraged to develop and recover the CBM resources prior to coal mining. This approach is consistent with BLM's policy on conflicts between coal and CBM development, which is explained in BLM Instruction Memorandum No. 2000-081. BLM's policy is to optimize the recovery of both resources and ensure that the public receives a reasonable return.

In summary, all of the lands in the PRCC, ALC, TCC, and ACC coal lease applications have been subjected to the four coal planning screens and determined acceptable for further lease consideration. Thus, a decision to lease the federal coal lands in this application would be in conformance with the existing management plans for the BLM and USFS.

1.5 Consultation and Coordination

Initial Involvement

BLM received the NARO North and NARO South coal lease applications on March 10, 2000, the Little Thunder coal lease application on March 23, 2000, the West Roundup coal lease application on July 28, 2000, and the West Antelope coal lease application on September 12, 2000. The applications were initially reviewed by the BLM, Wyoming State Office, Division of Mineral and Lands Authorization. The BLM ruled that these applications and lands involved met the requirements of regulations

governing coal leasing on application (43 CFR 3425).

The BLM Wyoming State Director notified the Governor of Wyoming on April 5, 2000, that PRCC had filed a lease application with BLM for the NARO North and NARO South LBA Tracts. The BLM Wyoming State Director notified the Governor of Wyoming on April 15, 2000 that ALC filed a lease application with BLM for the Little Thunder LBA Tract. The BLM Wyoming State Director notified the Governor of Wyoming on August 24, 2000 that TCC filed a lease application with BLM for the West Roundup LBA Tract. The BLM Wyoming State Director notified the Governor of Wyoming on October 3, 2000 that ACC filed a lease application with BLM for the West Antelope LBA Tract. A notice announcing the receipt of the PRCC, ALC and TCC coal lease applications published in the *Federal Register* on September 12, 2000 served as public notice that the PRCC, ALC, and TCC coal lease applications had been received. Copies were sent to voting and nonvoting members of the PRRCT, including the governors of Wyoming and Montana, the Northern Cheyenne Tribe, the Crow Tribal Council, the USFS, OSM, USFWS, National Park Service, and U.S. Geological Survey.

The PRRCT reviewed all four lease applications at a public meeting held on October 25, 2000, in Cheyenne, Wyoming. Each of the applicants presented information about their existing mine and pending lease application to the PRRCT at that meeting. The PRRCT recommended

that the BLM continue to process all four lease applications. The major steps in processing an LBA are shown in Appendix C.

The BLM published a Notice of Intent to Prepare an Environmental Impact Statement and Notice of Scoping in the *Federal Register* on October 3, 2001 and in the Gillette News Record on September 25, 2001 and October 2, 2001. The publications served as public notice that the ACC coal lease application had been received, announced the time and location of a public scoping meeting, and requested public comment on all four applications. Letters requesting public comment and announcing the time and location of the public scoping meeting were mailed to all parties on the distribution list in September, 2001.

A public scoping meeting was held on October 10, 2001 in Gillette, Wyoming. At the public meeting, PRCC, TBCC, TCC, and ACC personnel orally presented information about their mines and their needs for the coal. The presentation was followed by a question and answer period, during which one oral comment was made. The scoping period extended from October 1 through October 31, 2001, during which time BLM received 12 written comments.

Chapter 5 provides a list of other federal, state, and local governmental agencies that were consulted in preparation of this EIS and the distribution list for this EIS.

Issues and Concerns

Issues and concerns expressed by the public and government agencies relating to the PRCC, ALC, TCC, and ACC coal lease applications and previous coal lease applications included:

- potential conflicts with existing conventional oil and gas development and existing and proposed CBM development;
- cumulative impacts of mineral development to all other resources;
- validity and currency of resource data;
- public access;
- potential impacts to threatened and endangered species and other species of concern;
- potential air quality impacts (including cumulative impacts to visibility);
- potential surface and groundwater quality and quantity impacts;
- potential impacts of and possible mitigation for nitrogen oxide emissions resulting from blasting of coal and overburden;
- the need to include reasonably foreseeable actions such as the construction and operation of the DM&E railroad and power plants in the cumulative analysis;
- the need to address increasing coal production in the Powder River Basin in the cumulative analysis;
- potential impacts on cultural and paleontological resources;
- wetland impacts; and
- short- and long-term impacts on fish and wildlife.

Draft EIS

Parties on the distribution list are being sent copies of this DEIS, and copies are being made available for review at the BLM offices in Casper and Cheyenne.

Due to the amount of information available on these tracts, a separate document entitled *Supplementary Information on the Affected Environment in the General Analysis Area for the South Powder River Basin Coal EIS* has been prepared and is being made available on request. This supplementary document provides more detailed information on the affected environment in each tract.

A notice announcing the availability of the DEIS will be published in the *Federal Register* by the EPA. The BLM will publish a Notice of Availability/Notice of Public Hearing in the *Federal Register*. A 60-day comment period on the DEIS will commence with publication of the EPA Notice of Availability. The BLM *Federal Register* notice will announce the date and time of a public hearing and will be used to solicit public comments on the DEIS and on the fair market value, the maximum economic recovery, and the proposed competitive sale of coal from the five LBA tracts. A formal public hearing will be held during the 60-day comment period.

Final EIS and Future Involvement

All substantive comments received on the DEIS will be included, with agency responses, in the FEIS. Availability of the FEIS will be published in the *Federal Register* by the BLM and the EPA. After a 30-day availability period, BLM will make a separate decision to hold or not to hold a competitive lease sale for each of the federal coal in these five tracts. A public ROD for each of the tracts will be mailed to parties on the mailing list and others who commented on these LBAs during the NEPA process. The public and/or the applicants can appeal the BLM decision to hold or not to hold a competitive sale and issue a lease for any of the five tracts. The BLM decision must be appealed within 30 days after it is signed. The decision can be implemented at that time if no appeal is received. If competitive lease sales are held, the lease sales will follow the procedures set forth in 43 CFR 3422, 43 CFR 3425, and BLM Handbook H-3420-1, Competitive Coal Leasing (BLM 1989).

Department of Justice Consultation

After each competitive coal lease sale, but prior to issuance of a lease, the BLM will solicit the opinion of the Department of Justice on whether the planned lease issuance creates a situation inconsistent with federal antitrust laws. The Department of Justice is allowed 30 days to make this determination. If the Department of Justice has not responded in writing within the 30 days, the BLM can proceed with issuance of the lease.